PU-8H8HBT

8 x 8 HDMI HDBaseT™ Matrix (inc. PoE)

OPERATIONS MANUAL

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SAFETY PRECAUTIONS

Please read all instructions before attempting to unpack, install or operate this equipment and before connecting the power supply.

Please keep the following in mind as you unpack and install this equipment:

- Always follow basic safety precautions to reduce the risk of fire, electrical shock and injury to persons.
- To prevent fire or shock hazard, do not expose the unit to rain, moisture or install this product near water.
- Never spill liquid of any kind on or into this product.
- Never push an object of any kind into this product through any openings or empty slots in the unit, as you may damage parts inside the unit.
- Do not attach the power supply cabling to building surfaces.
- Use only the supplied power supply unit (PSU). Do not use the PSU if it is damaged.
- Do not allow anything to rest on the power cabling or allow any weight to be placed upon it or any person walk on it.
- To protect the unit from overheating, do not block any vents or openings in the unit housing that provide ventilation and allow for sufficient space for air to circulate around the unit.

REVISION HISTORY

VERSION NO.	DATE	SUMMARY OF CHANGE
RDV1	21/05/2012	Preliminary Release

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1. INTRODUCTION

As the Flagship 8x8 HDBaseT™ Matrix, the PU-8H8HBT solution offers complete HDBaseT™ convergence. Installers can switch and distribute up to 8 HDMI sources, RS-232, 2-Way IR, and PoE to lengths of up to 100m using CAT5e/6 cable infrastructure. This single box solution will enable an installer to confidently integrate an eight zone multi-room AV system. The PU-8H8HBT is designed to be used with the PU-507-RX Receiver which can utilise the Power over Ethernet (PoE) capabilities of the matrix.

2. APPLICATIONS

- HDMI System controls
- Video/TV wall display and control
- Security surveillance and control
- Commercial advertising, displaying and control
- Lecture room display and control
- Hyper market demonstration and control

3. PACKAGE CONTENTS

- 8×8 HDMI Matrix Switcher over CAT5e/6/7
- HDMI over CAT5e/6/7 Receiver (Optional)
- 2×IR Extender
- 2×IR Blaster
- 2×24V/6.25 A DC Power Adaptor (1 for PoE)
- 1×IR Remote control
- Operation manual

4. SYSTEM REQUIREMENTS

- Input source equipment with HDMI connection cables, industry standard CAT5e/6/7 cables
- Output display or audio receiver equipments with HDMI connection cables
- HDMI over CAT5e/6/7 Receiver(s)

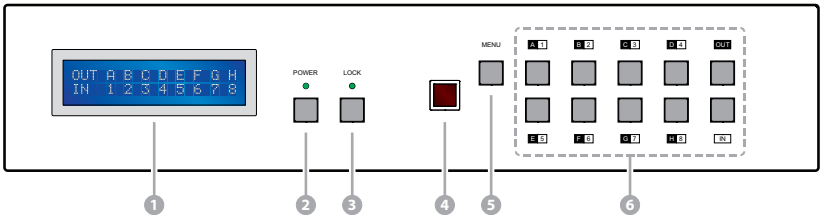
5. FEATURES

- Supports all v1.3 HDMI resolutions
- Supports uncompressed video/audio up to 10.2Gbps
- Common supported resolutions: HDTV: 480p, 576p, 720p, 1080i, 1080p, 1080p24; PC: VGA, SVGA, XGA, WXGA, SXGA, UXGA, WUXGA.
- HDMI, HDCP and DVI complaint
- High Definition Audio supported: Dolby TrueHD, Dolby Digital Plus and DTS-HD Master Audio plus LPCM (up to 192kHz)
- Uncompressed data transfer over single CAT cable (100m - CAT6; 80m - CAT5e)
- Supports HDMI input up to 15m 1080p 8bit or 10m 1080p 12bit.
- Supports RS-232, 2-Way IR, Manual Selection Buttons, and HDMI CEC control pass through
- Selectable EDID settings - TV (downstream) and STD (fixed).
- Compact 2U Rack mount design
- Supports 3D signals
- Supports additional IR Control via a master (ALL) Input/Output.

Note: The PoE function is designed for powering compatible receiver units only—non-PoE receivers will need their own power supply.Receivers of another brand may not be compatible.

6. OPERATION CONTROLS AND FUNCTIONS

6.1 Front Panels



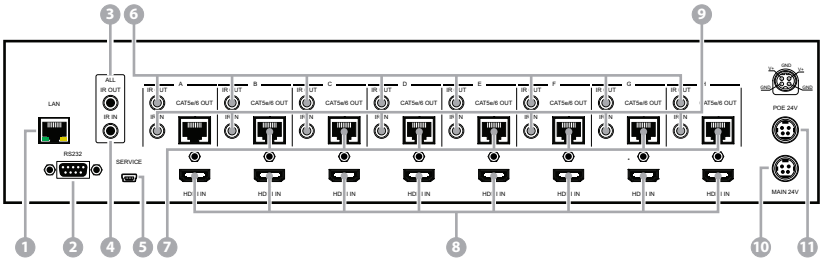
1. **LCD Display:** Displays the setting information of each input and output selection.
2. **Power button LED:** Press this button to power the device on/off. The LED will illuminate green when the power is on, red when it is in 'Standby' mode.
3. **LOCK:** Press this button to lock all the buttons on the panel, press again to unlock. The LED will illuminate green when locked.
4. **IR:** IR Receiver window (accepts the remote control signal of this device only).
5. **MENU:** Press this button to change the EDID setting from STD (internal) 1 to TV (external) 2 , press it again to confirm the selection.
6. **1~8/A~H and Out/In button:** Press the Out or In button to select the output or input mode then press the required number button to make the selection accordingly.

   For example, if outputs A~D need to be set to input 1 and outputs E~H need to be set to input 2 then the following sequence of button presses need to be performed

   Press: Out →A→B→C→D→In→1→Menu,
   and then press: Out→E→F→G→H→In→2→Menu.

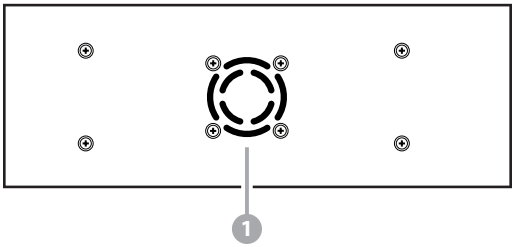
   Note: If the menu button is not pressed the selection will not be changed.

6.2 Rear Panels



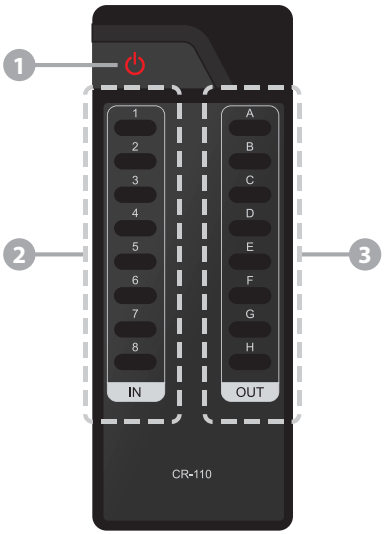
1. **LAN:** Reserved.
2. **RS-232:** Connect to a PC or laptop with D-Sub 9-pin female cable for the transmission of RS-232 commands.
3. **MATRIX IR OUT:** Connect to the IR blaster (included in the package) for transmitting IR signals to the source or display equipment. Place the IR blaster in direct line-of-sight of the equipment to be controlled
4. **MATRIX IR IN:** Connect to the IR extender (included in the package) for the reception of IR signals from the remote control of this device or the source and display equipment. Ensure that remote being used is within the direct line-of-sight of the IR extender.
5. **SERVICE:** This slot is to connect with mini USB-B type cable for firmware update only.
6. **IR IN 1~8:** Connect the supplied IR extenders (included in the package) for IR signal reception. Ensure that remote being used is within the direct line-of-sight of the IR extender
7. **IR OUT 1~8:** Connect the supplied IR blasters (included in the package) for IR signal transmission. Place the IR blaster in direct line-of-sight of the equipment to be controlled.
8. **CAT5e/6/7 OUT 1~8:** Connect to the Receiver units with a single CAT5e/6/7 cable from the Receiver for HDMI Audio/Video and IR/RS232 control.
9. **HDMI IN 1~8:** Connect to the HDMI input source devices such as a DVD player or a Set-top Box with HDMI cable or DVI to HDMI converter cable.
10. **PoE 24V:** This slot is to plug the power cord with adaptor included in the package and then connect them with AC wall outlet for power supply, for powering receivers with Power-over-Ethernet capability.
11. **DC 24V MAIN POWER:** This slot is where user connect the 24V DC power adaptor included in the package and plug the adaptor to an AC wall outlet for power supply, for powering the main unit.

6.3 Side Panel



1 **Fan Ventilator:** These are air ventilation areas, DO NOT block these areas or cover it with any object. Please allow adequate space around the unit for air circulation

6.4 Remote Control

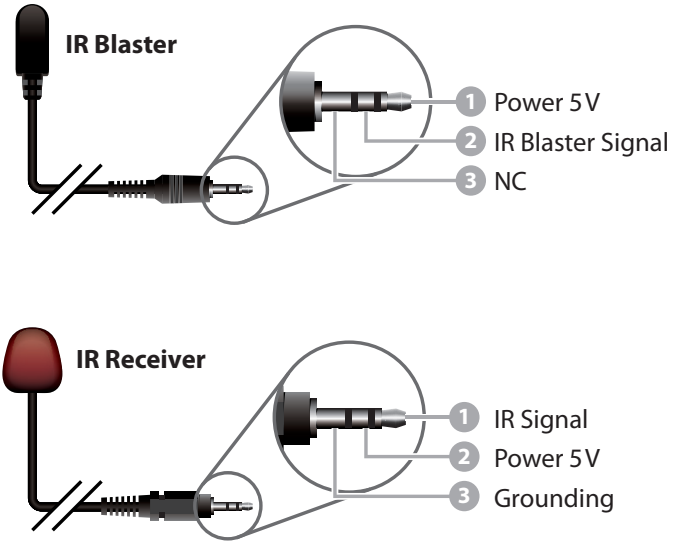


1 **Power:** Press this button to switch on the device or set it to standby mode.

2 **IN**: Input ports selection 1~8.

3 **OUT**: Output ports selection A~H.

6.5 IR Pin Assignment



6.6 RS-232 Protocols

Pin Assignment

CMSI-8H8CV			Remote Control Console	
PIN	**Assignment**		**PIN**	**Assignment**
1	NC		1	NC
2	Tx		2	Rx
3	Rx	→	3	Tx
4	NC		4	NC
5	GND	←	5	GND
6	NC		6	NC
7	NC		7	NC
8	NC		8	NC
9	NC		9	NC

Baud Rate: 19200bps

Data bit: 8 bits

Parity: None

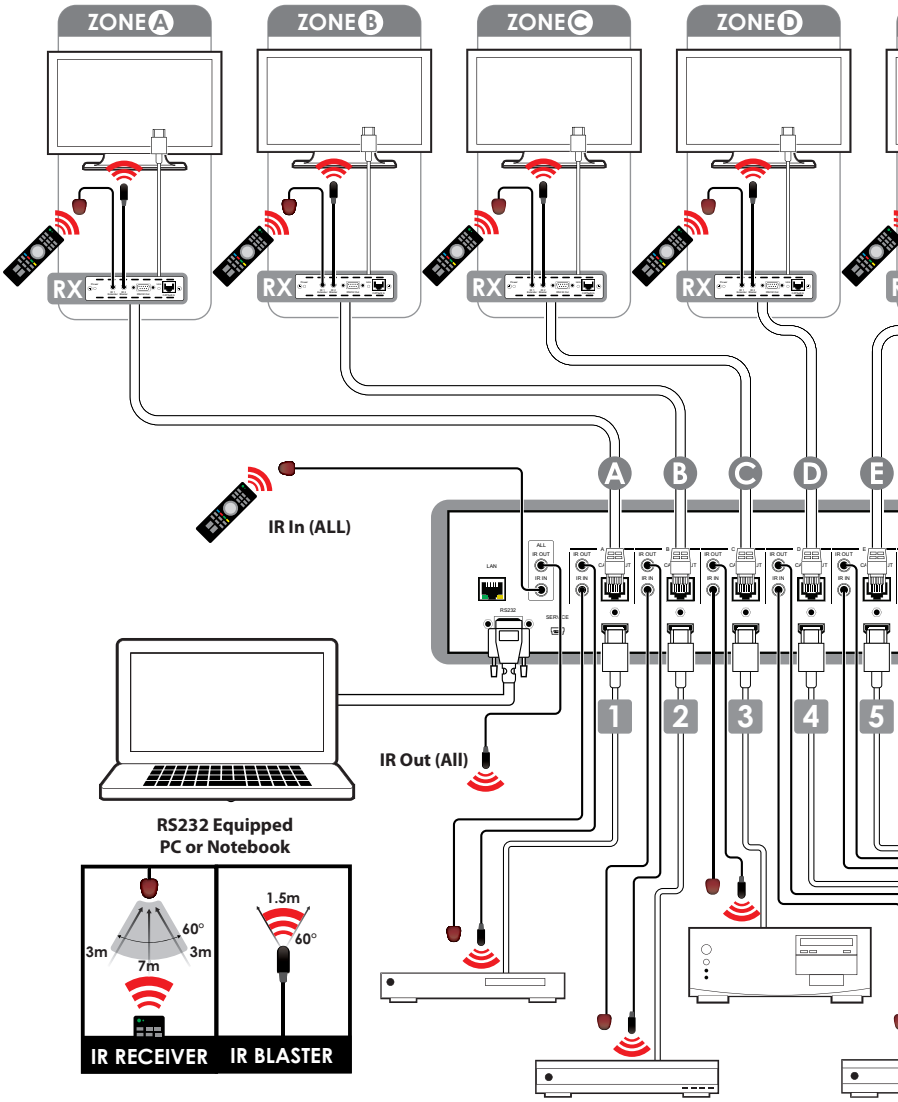
Stop Bit: 1

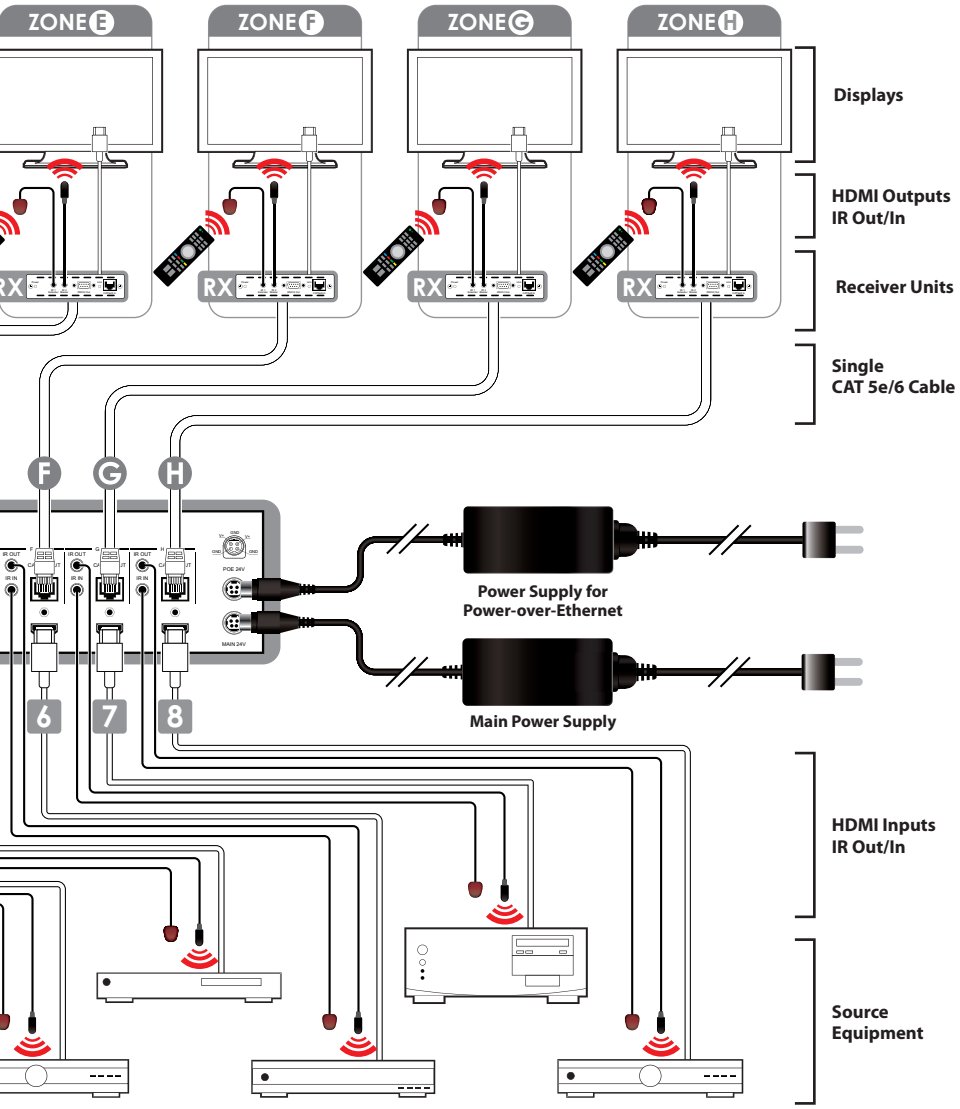
Flow Control: None

6.7 RS-232 Commands

Command (Case Sensitive)	Description
A1~A8	Switch output A to 1~8
B1~B8	Switch output B to 1~8
C1~C8	Switch output C to 1~8
D1~D8	Switch output D to 1~8
E1~E8	Switch output E to 1~8
F1~F8	Switch output F to 1~8
G1~G8	Switch output G to 1~8
H1~H8	Switch output H to 1~8
ABCD...1~ABCD...8	Switch output ABCD... to 1~8 at the same time
P0	POWER OFF
P1	POWER ON
I1~I8	Switch all the output to 1~8
ST	Display the current matrix status and F/W version
RS	System Reset to A1, B2, C3, D4, E5, F6, G7, H8
?	Display all available commands

7. CONNECTION DIAGRAM




ZONE E
ZONE F
ZONE G
ZONE H
Displays
HDMI Outputs
IR Out/In
Receiver Units
Single
CAT 5e/6 Cable
F
G
H
Power Supply for
Power-over-Ethernet
Main Power Supply
6
7
8
HDMI Inputs
IR Out/In
Source
Equipment

8. SPECIFICATIONS

Max. TMDS Bandwidth	6.75Gbps
Input Ports	8×HDMI, 9×IR Extender, 1×RS-232, 1×Mini USB-B type(for firmware update only)
Output Ports	8×CAT5e/6/7, 9×IR Blaster
ESD Protection	Human body model: ± 8kV (Air-gap discharge) ± 4kV (Contact discharge)
Power Supply	24V/6.25A DC (US/EU standards, CE/FCC/UL certified)
Dimensions	438mm(W)×255mm(D)×93mm(H)
Weight	4458g
Chassis Material	Metal
Silkscreen Color	[redacted]
Operating Temperature	0 °C~40 °C/32 °F~104 °F
Storage Temperature	−20 °C~60 °C/−4 °F~140 °F
Relative Humidity	20~90% RH (non-condensing)
Power Consumption	64W Tx(Main), 56W Rx(PoE)

9. ACRONYMS

ACRONYM	COMPLETE TERM
DTS	Digital Theater System
DVI	Digital Visual Interface
EDID	Extended Display Identification Data
HDCP	High-bandwidth Digital Content Protection
HDMI	High-Definition Multimedia Interface
HDTV	High-Definition Television
LCM	Liquid Crystal Monitor
USB	Universal Serial Bus
UXGA	Ultra Extended Graphics Array
VGA	Video Graphics Array

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